

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
13 November 2003 (13.11.2003)

PCT

(10) International Publication Number
WO 03/093312 A1

(51) International Patent Classification⁷: **C07K 14/705**

[CH/CH]; Kaltbrunnenstrasse 41, CH-4054 Basel (CH).
SCHLAEPPI, Jean-Marc [CH/CH]; Carmenstrasse 4,
CH-4123 Allschwill (CH).

(21) International Application Number: PCT/EP03/04433

(22) International Filing Date: 28 April 2003 (28.04.2003)

(74) Agent: **GROS, Florent**; Novartis AG, Corporate Intellectual Property, CH-4002 Basel (CH).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/376,427 29 April 2002 (29.04.2002) US

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LT, LU, LV, MA, MD, MK, MN, MX, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SE, SG, SK, TJ, TM, TN, TR, TT, UA, US, UZ, VC, VN, YU, ZA, ZW.

(71) Applicant (*for all designated States except AT, US*): **NOVARTIS AG** [CH/CH]; Lichtstrasse 35, CH-4056 Basel (CH).

(84) Designated States (*regional*): Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

(71) Applicant (*for AT only*): **NOVARTIS PHARMA GMBH** [AT/AT]; Brunner Strasse 59, A-1230 Vienna (AT).

Published:

— with international search report

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **BEERLI, René** [CH/CH]; Kirchweg 29, CH-4102 Binningen (CH).
FOURNIER, Brigitte [FR/FR]; 12, rue des Erables, F-68400 Riedisheim (FR). **KALLEN, Jörg**

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: CRYSTAL STRUCTURE OF THE LIGAND BINDING DOMAIN OF THE RETINOIC ACID-RELATED ORPHAN RECEPTOR ALPHA (ROR-ALPHA)

(57) Abstract: The present invention relates ROR α in crystallized form and methods for the preparation thereof. The invention also provides a three-dimensional model ROR α and means for the design of ROR α modulators. Ligands binding to ROR α are also provided.

WO 03/093312 A1